# Sprinkler Inspector, Step 1

*New Hires are placed at step one until they meet the minimum requirements and qualifications to move to the next step.*

*To advance to a higher step, an inspector at step one must obtain the following inspection credentials as mandated by the State of Wisconsin:*

1. ***State of Wisconsin Journeyman Sprinkler Fitter***
   ***OR***
2. ***State of Wisconsin Journeyman Plumber***
   a. ***State of Wisconsin Automatic Fire Sprinkler System Tester Certification must be obtained during probation period***

*An inspector holding these credentials upon entering the City of Milwaukee Construction Sprinkler Inspection section, with supervisor and DNS administrative approval, may be eligible for appointment to a higher career ladder step (based on certifications held at the time of appointment) with the one year probationary period waived for the sole purposes of this Career Ladder. Separate probationary period requirements mandated by the Department of Employee Relations still apply.*

*Secondly, an inspector must demonstrate a thorough knowledge pertaining to the fundamentals of performing basic sprinkler inspections as they relate to good communication, construction methodologies, code knowledge, problem solving and code interpretation and its enforcement. Listed below is a representation of the core competencies that an inspector must have a thorough knowledge of:*

## *General Competencies*

- *Knowledge of sprinkler construction practices and techniques*
- *Knowledge of codes, methods, materials and tests used in construction of Plumbing*
- *Knowledge of the inspection methods for plumbing and ability to perform inspections to ensure code compliance*
- *Knowledge of safe working practices*
- *Skill in reading and recognizing violations of all applicable plumbing codes*
- *Skill in preparing analytical reports on compliance with standards and codes*
- *Ability to make sound technical decisions independently*
- *Ability to communicate diplomatically with the public, public officials, and other skilled trades people*
- *Ability to maintain detailed records*
- *Management and Control of Assigned District*
- *Ability to coordinate with other DNS and City Entities*
- *Ability to Evaluate and Interpret Construction Plans*
- *Thorough knowledge of the Milwaukee Code of Ordinances*
- *Code Administration and Definitions of 1&2 Family and commercial Codes*
- *Familiarity of DNS processes and skill set with regards to computer programs.*

# ***Wisconsin Automatic Fire Sprinkler System Tester & Journey Person Competencies***

***NFPA 13***

- *Level of protection*
- *Classification of occupancies*
- *Hazardous occupancies*
- *Special occupancy*
- *Limited area systems*
- *Additives*
- *Sprinklers*
- *Aboveground pipe and tube*
- *Fittings*
- *Joining of pipe and fittings*
- *Hangers*
- *Valves*
- *Fire department connections*
- *Water flow alarm devices*
- *Wet pipe systems*
- *Dry pipe systems*
- *Pre-action system*
- *Deluge systems*
- *Multi-cycle systems*
- *Antifreeze systems*
- *Automatic systems with non-fire protection connections*
- *System protection area limitations*
- *Residential sprinklers*
- *Large drop sprinklers*
- *Early suppression fast response sprinklers*
- *In-rack sprinklers*
- *Pilot line detectors*
- *special situations*
- *Piping installation*
- *System attachments*
- *Hanging, bracing and restraint of system piping*
- *Underground piping*
- *Design approaches*
- *Adjacent hazards or design methods*
- *Protection of commodities*
- *System testing and acceptance.*

***NFPA 14***

- *Installation of standpipe and hose systems*
- *System components and hardware*
- *Piping and tubing*
- *Fittings*
- *Joining of pipe and fittings*
- *Valves*
- *Hose connections*
- *Hose stations*
- *Fire department connections*
- *Pressure-regulating devices*
- *Signs*
- *Automatic dry systems*
- *Classes of standpipe systems*
- *Required type of system*
- *Gauges*
- *Water flow and supervisory alarms*
- *Location and protection of piping*
- *Underground piping gate valves and check valves*
- *Fire department connections*
- *Support of piping*
- *Installation of signs*
- *Sings for water supply pumps*
- *Hydraulic design*
- *Pressure limitation*
- *Locations of hose connections*
- *Number of standpipes*
- *Interconnection of standpipes*
- *Minimum sizes for standpipes and branch lines*
- *System design and sizing of pipe for delivery of system demand*
- *Minimum and maximum pressure limits*
- *Standpipe system zones*
- *Flow rates*
- *Drains and test riser*
- *Fire department connections*
- *Plans and specifications*
- *Required water supply*

- *Minimum supply for Class I and Class III systems*
- *Minimum supply for Class II systems*
- *Water supply evaluation*
- *Flushing of piping*
- *System acceptance*
- *Hose threads*
- *Hydrostatic tests*
- *Flow tests*
- *Manual valve test*
- *Alarm and supervision tests*
- *Other system features*
- *Fire department connections for buildings under construction*
- *Temporary installations*

***NFPA 25***

- *Deluge foam-water sprinkler and foam-water spray systems*
- *Water-based fire protection system definitions*
- *Responsibility of the property owner or designated representative*
- *Corrective action*
- *Records*
- *Inspection*
- *Testing*
- *Performance based programs*
- *Maintenance*
- *Safety*
- *Inspection of sprinkler systems*
- *Testing of sprinkler systems*
- *Maintenance of sprinkler systems*
- *Component action requirements*
- *Inspection of standpipe and hose systems*
- *Testing of standpipe and hose systems*
- *Maintenance of standpipe and hose systems*
- *Inspection of private fire service mains*
- *Testing of private fire service mains*
- *Maintenance of private fire service mains*
- *Inspection of fire pumps*
- *Testing of fire pumps*
- *Maintenance of fire pumps*
- *Inspection of water storage tanks*
- *Testing of water storage tanks*
- *Maintenance of water storage tanks*
- *Water spray fixed systems*
- *Ultra-high speed water spray system operational tests*
- *Component action requirements for ultra-high-speed water spray systems*
- *Inspection of foam-water sprinkler systems*
- *Testing of foam-water sprinkler systems*
- *Maintenance of foam-water sprinkler systems*
- *Inspection of water mist systems*
- *Testing of water mist systems*
- *Maintenance of water mist systems*
- *Control valves in water-based fire protection systems*
- *System valves*
- *Pressure reducing valves*
- *Relief valves*
- *Backflow prevention assemblies*
- *Fire department connection valves*
- *Obstruction investigation*
- *Internal inspection of piping*
- *Obstruction prevention*
- *Ice obstruction*
- *System impairments*
- *Impairment coordinator*
- *Tag impairment system*
- *Impaired equipment*
- *Preplanned impairment programs*
- *Emergency impairments*
- *Restoring systems to service.*
- *8400 Hours of on the job training.*
- *400 hours of apprenticeship schooling.*
- *Submit an application in accordance with Comm 5.01.*
- *Submit application fee and examination fee in accordance with Comm 5.02.*
- *Take and pass examination in accordance with Comm 5.09.*

- *Knowledge of Fire Sprinkler construction practices and techniques.*
- *Knowledge of codes, methods, materials and tests used in construction of Fire Sprinkler System(s).*
- *Ability to maintain detailed records.*
- *Ability to make sound technical decisions independently.*
- *Ability to conduct NFPA 25 inspections.*
- *Ability to read blueprints and plans.*
- *Ability to provide clear, accurate explanations orally and in writing.*
- *Knowledge and ability to use computers.*
- *Ability to move and transfer objects weighing 50 lbs. or more.*
- *Ability to climb ladders, stairs.*
- *Take part in continuing education classes.*
- *Ability to stay current on code updates.*
- *Knowledge of safe working practices.*
- *Prepares detailed reports of inspections performed, code violations observed and corrective recommendations offered.*
- *Ability to troubleshoot problems associated with a fire sprinkler system.*
- *Knowledge of NFPA 13R.*
- *Knowledge of NFPA 13D.*
- *Knowledge of NFPA 13*

*Additionally, an inspector at step one must meet or exceed the thresholds for advancement established in the* ***QUANTITATIVE CORE COMPETENCIES.*** *This separate quantitative core competencies packet for this position is subject to review by the department supervisor for applicability with regards to the time frame analyzed while taking into consideration applicable training, specialty projects, inspector workload, district composition, and other factors that may have in impact on performance.*

## *Additional Steps.*

*After attainment of job required certifications as listed in the job description (IFC Property Maintenance and Housing Inspector certification) along with supervisor and DER approval the inspector may begin advancing in the career ladder. The below listed steps may be achieved in any order.*

*In order to advance to pay step 2 using Step options 2-6, the inspector must have achieved the Step 1 requirements and be able to provide evidence of completion for one of the below listed Qualitative Steps.*

*In order to advance to pay step 3 using Step options 2-6, the inspector must have achieved the Step 1 requirements and be able to provide evidence of completion for two of the below listed Qualitative Steps.*

*In order to advance to pay step 4 using Step options 2-6, the inspector must have achieved the Step 1 requirements and be able to provide evidence of completion for three of the below listed Qualitative Steps.*

*In order to advance to pay step 5 using Step options 2-6, the inspector must have achieved the Step 1 requirements and be able to provide evidence of completion for four of the below listed Qualitative Steps.*

*In order to advance to pay step 6 using Step options 2-6, the inspector must have achieved the Step 1 requirements and be able to provide evidence of completion for five of the below listed Qualitative Steps.*

*In each case above, for advancement to a higher pay step, the inspector shall obtain the required Qualitative and Quantitative measures associated with the step they are requesting. The quantitative core competencies must be achieved in the sequential order as outlined in the Quantitative Core Competencies document. In addition, inspector's performance, customer service, job skill and knowledge is subject to review by the supervisor for applicability for the step being requested and the time frame to be analyzed taking into consideration training, specialty projects, inspector workload, district composition, and other factors that may have an impact on performance..*

*In each case above, for advancement to a higher pay step, the inspector shall obtain the required Qualitative and Quantitative measures associated with the step they are requesting. The quantitative core competencies must be achieved in the sequential order as outlined in the Quantitative Core Competencies document. In addition, inspector's performance, customer service, job skill and knowledge is subject to review by the Supervisor for applicability for the step being requested and the time frame to be analyzed taking into consideration training, specialty projects, inspector workload, district composition, and other factors that may have an impact on performance.*

# Sprinkler Inspector, Step Option 2

*To use this step option, an inspector must obtain the following inspection credentials or certification issued by the American Society of Sanitary Engineers (ASSE) and State of Wisconsin:*

1. ***Cross-Connection Control Tester***
2. ***State of WI Fire Detection, Prevention & Suppression Inspectors License***

*An inspector using this step must demonstrate a thorough knowledge pertaining to the fundamentals of performing basic sprinkler inspections as they relate to the relative hazards within a building or structure as well as maintaining qualitative core competencies*
*These certifications requirements are intended to represent a mastery in a particular subject that will continue to be built upon in other career ladder steps.*

*Listed below is a representation of the core competencies that an inspector must have a thorough knowledge of to advance using this step:*

## ***Cross Connection***

***Back Flow Prevention History***

- *Legal Precedent*
- *Federal Laws and Regulations*
- *Safe drinking water act*
- *Incidents*

***Backflow Prevention Hydraulics***

- *Water characteristics and Pressure*
- *Backflow*
- *Fluid Flow Fundamentals*
- *Cross-Connection Types*
- *Cross-Connection Control Isolation*
- *Cross-Connection Control Containment*
- *Thermal Expansion*

***Code and Installation Criteria***

- *Identification of potable and non-potable water systems*
- *Unlawful connections*
- *Cross-connection control*
- *Protection from backflow in underground piping*
- *Dangerous connections*
- *Enclosures*
- *Air gap separation*
- *Barometric loop*
- *Anti-siphon fill valves for gravity water closet flush tanks*
- *Hose Bibb devices*
- *Hose connection vacuum breakers*
- *Vacuum breaker wall hydrants, freeze-resistant, automatic draining type*
- *Hose connection back flow preventers*
- *Beverage equipment devices*
- *Beverage dispensing equipment*
- *Trap seal primer valves*
- *Laboratory faucet vacuum breakers*
- *Check valves*
- *Reduced pressure principle assembly*
- *Gauges*
- *Differential pressure gauge*
- *Water column*
- *ASSE standard 1064*

***Backflow preventer testing***

- *Field test*
- *Equipment*
- *Test results*
- *Pre-test*
- *Assembly test preparation*
- *Testing the DC/RP detector assembly*
- *Equipment maintenance*

***Fire-sprinkler system backflow prevention***

- *Fire-sprinkler installations*
- *Water based suppression systems*
- *Dry pipe pressurized and pre-action systems*
- *NFPA 13*
- *NFPA 20*
- *NFPA 25*

## ***Fire Detection, Prevention & Suppression – Core Competencies***

- *NFPA 1031*
- *International Fire Service Accreditation Congress (IFSAC)*

- *ICC Fire Inspection*
- *National Institute for Certification in Engineering Technology (NICET)*

*These Skills and certifications build on important priorities of the building code that the inspector should already be familiar with and encounter on a regular basis in public buildings.*
*Additionally, an inspector advancing to a higher step must meet or exceed the thresholds for advancement established in the **QUANTITATIVE CORE COMPETENCIES** based on the step they are requesting.*

## Sprinkler Inspector, Step Option 3

*To use this step option, an inspector must obtain the following inspection credentials issued by the American Society of Sanitary Engineers (ASSE) and training by the International Code Council (ICC):*

1. ***International Residential Code (IRC) Fire Sprinkler Training***
2. ***Rough and Final Inspections of Fire Sprinkler Systems Seminar***

*Secondly, an inspector using this step must demonstrate a thorough knowledge pertaining to the fundamentals back flow protection and residential sprinkler installation requirements.*

*Listed below is a representation of the core competencies that an inspector must have a thorough knowledge of to advance to a step three:*

## *IRC Fire Sprinkler Core Competencies*

- *Fire Sprinkler Installation requirements in townhouses, 1-2 dwellings and condominium units*
- *Fire Sprinkler design requirements in townhouses, 1-2 dwellings and condominium units*
- *Fire Sprinkler requirements for additions/modifications in townhouses, 1-2 dwellings and condominium units*
- *Pipe sizing per NFPA / IRC in townhouses, 1-2 dwellings and condominium units*
- *Alarm requirements in townhouses, 1-2 dwellings and condominium units with a fire sprinkler system*

*An inspector at this level expands on their knowledge of building construction and the elements associated with commercial structures, in particular sprinkling requirements at what thresholds within buildings.*

## *Rough and Final Inspections of Fire Sprinkler Systems Training*

*At the conclusion of this seminar the participant will be able to:*

- *Compare the actual fire sprinkler installation with approved construction documents and current codes and standards.*
- *Recognize the duties of the inspector through on-site evaluations of the installed systems.*
- *Employ contemporary techniques of field inspections.*
- *Understand the stages of fire sprinkler installation and the need to correlate and interact with contractors and the authorities having jurisdiction.*

*Additionally, an inspector advancing to a higher step must also meet or exceed the thresholds for advancement established in the **QUANTITATIVE CORE COMPETENCIES** based on the step they are requesting.*

# Sprinkler Inspector, Step Option 4

*To use this step option, an inspector must obtain the following inspection credentials or certification issued by the National Institute for Certification in Engineering Technologies (NICET):*

1. ***Understanding, Applying and Enforcing NFPA 25 Seminar***
2. ***Inspection and Testing for the Sprinkler Industry Seminar***

*Secondly, an inspector must demonstrate a thorough knowledge pertaining to the performance of mechanical equipment, their sprinklering requirements. Listed below is a representation of the core competencies that an inspector must have a thorough knowledge of the following to advance using this step:*

## *NFPA 25 Core Competencies*

- *Explain the areas to which the standard applies.*
- *Explain areas to which the standard does not apply, and how those areas are addressed.*
- *Explain the general definitions used in the standard that are common to all NFPA documents.*
- *Explain the various definitions specific to the standard, and their meaning.*
- *Discuss the impact and importance of the expanding number of definitions used in the standard and the necessity for them.*
- *Discuss the various Tables utilized throughout the standard and explain their respective purposes.*
- *Discuss and explain how to use the appropriate Table for the appropriate situation*
- *Apply the various Tables in the standard to the appropriate situation.*
- *Explain the difference between an internal inspection and an obstruction investigation*
- *Discuss and demonstrate the various means by which information is provided to the owner, and the reasons for different methods.*
- *Explain the difference between using an NFPA inspection report and an informational*
- *report.*
- *Describe potential ways of impairing a system*
- *Explain the difference between an emergency and a preplanned impairment.*
- *Describe the steps taken to impair a system.*
- *Describe the steps taken to restore a system to service.*
- *Identify various situations and explain whether they are or are not within the scope of*
- *NFPA 25.*
- *Describe how to properly report various situations that are or are not within the scope of*
- *NFPA 25.*
- *Identify various situations and explain what actions are required to be taken in accordance with the requirements of NFPA 25*
- *Identify various situations and explain what procedures must be followed after resolution of the issue.*

## ***Inspection & Testing for the Sprinkler Industry Core Competencies***

- *Identify the components of sprinklers, fire pumps, standpipe systems, water storage tanks, and fire service mains and describe their function*
- *Identify the requirements for inspection and testing in NFPA 25 as they apply to various systems and components.*
- *Recognize potential workplace hazards as they relate to ladders.*
- *Recognize various potential problems with system and explain them.*
- *Identify the appropriate section of NFPA 25 that addresses the problem.*
- *Develop a preliminary record of system problems.*
- *Recognize potential system deficiencies as defined in NFPA 25.*
- *Discuss testing requirements for water-based fire protection systems and components*
- *Describe conditions for developing an Inspection and Testing process.*
- *Describe the role of the inspector/tester and record retention.*
- *Identify applicable OSHA regulations and how they relate to inspection and testing of water-based fire protection systems.*

*Upon the completion of this step, an inspector should have a thorough knowledge in performance of mechanical inspections and their sprinkler requirements.*

*Additionally, an inspector advancing to a higher step must meet or exceed the thresholds for advancement established in the **QUANTITATIVE CORE COMPETENCIES** based on the step they are requesting.*

# Sprinkler Inspector, Step Option 5

*To use this step option, an inspector must obtain following inspection credentials issued by the International Code Council (ICC), National Fire Protection Association (NFPA) or the International Code Council (ICC), or the National Institute for Certification in Engineering Technologies (NICET):*

1. ***NFPA 13 - Sprinkler System Installation Requirements***
2. ***NFPA 13-13D-13R & 14 2013 Edition Updates (Or current adopted year updates)***

*Secondly, an inspector using this step must demonstrate a thorough knowledge and mastery pertaining to the field of fire safety, sprinklering requirements in buildings, and the relative hazards with regards to occupancy type and the level of protection provided. The following is a representation of the core competencies that an inspector must have a thorough knowledge of the following to advance using this step:*

### ***NFPA 13 - Sprinkler System Installation Requirements Core Competencies***

- *Discuss how the Occupancy Classification drives sprinkler system installation requirements.*
- *Describe the process for selecting sprinklers for installation.*

- *Discuss the effects of obstructions to sprinkler spray and how to avoid them.*
- *Identify the specific installation requirements for various types of sprinklers*
- *Identify the locations where sprinklers can be omitted*

***NFPA 13-13D-13R & 14 2013 Edition Updates (Or current adopted year updates) Core Competencies***

- *Identify the changes between the 2010 and 2013 Edition of NFPA 13*
- *Identify the changes between the 2010 and 2013 Edition of NFPA 13D*
- *Identify the changes between the 2010 and 2013 Edition of NFPA 13R*
- *Identify the changes between the 2010 and 2013 Editions of NFPA 14*
- *Describe the impact that these changes have on system design and installation*

*It is at this step, that an inspector gains a thorough understanding of the field of plumbing on sites and within buildings as well as gains critical knowledge to the construction of these buildings and the interaction of the plumbing elements to the occupancies of the building.*

*Additionally, an inspector advancing to a higher step must also meet or exceed the thresholds for advancement established in the* ***QUANTITATIVE CORE COMPETENCIES*** *based on the step they are requesting.*

## Sprinkler Inspector, Step Option 6

*To use this step option, an inspector must successfully complete one the following inspection credentials issued by the International Code Council (ICC), State of Wisconsin, National Fire Protection Association (NFPA), or through other means described below:*

1. ***NICET I***
   ***OR***
2. ***Fire Sprinkler Contractor License***
   ***OR***
3. ***Master Plumbers License***
   ***OR***
4. ***Commercial Building Inspector***
   ***OR***
5. ***Have obtained an associate's degree in engineering, architecture, construction management, construction technology or a field closely related to construction.***
   ***OR***
6. ***Have successfully completed 60 college credits of which a minimum of 39 credits are job-related or engineering-related, architectural design-related or construction management related.***
   ***OR***
7. ***Have obtained a Bachelor's degree in engineering, architecture, architectural engineering, construction management, construction technology, mechanical engineering, or a field closely related to construction.***
   ***OR***
8. ***Have obtained licensure through the State of Wisconsin as a Registered Architect, Professional Engineer, Designer of Plumbing Systems, or Designer of Sprinkler Systems.***

### *NICET (Inspection & Testing of Water Based systems) - Core Competencies*

- *Inspection of existing water-based fire protection systems*
- *Testing of existing water-based fire protection systems.*

- *Identifying emergency and pre-planned impairments*
- *Testing of water-based fire protection systems*
- *Documentation requirements for water-based fire protection systems.*
- *Types of water-based fire protection systems.*
- *Components of water-based fire protection systems.*
- *Types of damage and deficiencies that can impact system operations.*
- *Basic building features.*
- *Safety inspection and testing frequencies, requirements and procedures.*
- *Appropriate tools and test equipment.*

## ***Fire Sprinkler Contractors License – Core Competencies***

- *Fire Sprinkler Journeyman experience*
- *Fire Sprinkler system design*
- *Fire Sprinkler system installation*
- *NICET III fire protection/automatic fire sprinkler system layout*

## ***Master Plumber License – Core Competencies***

### ***Design, Construction, Installation Supervision, Maintenance, and Inspection of Plumbing***

- *Design Criteria*
- *Loads & Materials*
- *Intent and basic requirements*
- *Basic plumbing principals*
- *Administration and enforcement*
- *Plan review and cross connection control assembly registration*
- *Testing and inspection*
- *Maintenance and repairs*
- *Drain and Vent Systems*
- *Sanitary drain systems*
- *Vents and venting systems*
- *Traps and direct fixture connections*
- *Indirect and local waste piping*
- *Wastewater treatment and holding devices*
- *Waste cleanouts*
- *Storm water and clear water plumbing systems*
- *Sanitation Facilities and campgrounds*
- *Discharge points*
- *Water supply systems*
- *Cross connection control of water supply systems*
- *Health Care and related facilities*
- *Special plumbing installations*
- *Manufactured homes and manufactured home communities*
- *Pipe hangers and supports*
- *Plumbing treatment and standards*

### ***Private Onsite Wastewater Treatment Systems***

- *Sanitary permits*
- *Installation and inspection training*
- *Governmental programs*
- *Governmental inventory maintenance programs*
- *Experiments*
- *Penalties*
- *Plan review and approval*
- *Petitions for variance*
- *Range of responses from testing*
- *Prohibitions and limitations*
- *Design and installation*
- *General requirements*

- *Parameters for POWTS components consisting of in situ soil*
- *Reporting Requirements*
- *Recognized methods and technologies*
- *Parameters for using acceptable methods and technologies*
- *Performance monitoring*

***Plumbing Products***

- *Identification*
- *Department approval*
- *Device listing*
- *Penetrations of fire-resistive assemblies*
- *Chemical treatments for private sewage systems*
- *Biochemical treatments for private sewage systems*
- *Healthcare plumbing appliances*
- *Plumbing fixtures, appliances and equipment*
- *POWTS holding components or treatment components*
- *Plumbing materials*
- *Joints and connections*
- *Alternate approvals and experimental approvals*

***Soil and Site Evaluations***

- *Identification*
- *Department approval*
- *Device listing*
- *Penetrations of fire-resistive assemblies*
- *Chemical treatments for private sewage systems*
- *Biochemical treatments for private sewage systems*
- *Healthcare plumbing appliances*
- *Plumbing fixtures, appliances and equipment*
- *POWTS holding components or treatment components*
- *Plumbing materials*
- *Joints and connections*
- *Alternate approvals and experimental approvals*

***Boat and On-Shore Sewage Facilities***

- *Petition for Variance*
- *Applicability*
- *Required Approvals*
- *Holding tank, toilet and apertures*
- *Overboard discharge inactivation*
- *On-shore disposal facilities*
- *Alternate facilities*
- *Operation and maintenance*
- *Prohibited Facilities*

***Private Onsite Wastewater Treatment System Replacement***

- *Applicability*
- *Grant applicability participating governmental units*
- *Categories of POWTS*
- *Eligibility of owners*
- *Ineligibility of owners*
- *Maximum allowable financial assistance amount*
- *Maximum allowable financial assistance amount for experimental POWTS*

## ***Commercial Building Inspector Core Competencies***

- *Use and Occupancy Classifications*
- *Special Use Occupancies and Elements*
- *Height and Area Limitations Based on Type of Construction*
- *Fire Resistance and Protection Requirements*
- *Interior Finishes*
- *Use and Application of Glass, Glazing, Safety Glazing & Plastics*
- *Means of Egress*
- *Accessibility*
- *Building Systems Such as Lighting, HVAC, Plumbing Fixtures, Elevators, Generators*
- *Structural Components Such as Masonry, Wood, Steel and their Performance and Stability*
- *Safeguards During Construction*
- *Erosion Control and Storm Water Management Regulations*
- *Special Construction Such as Membrane Structures, Tents & Awnings*
- *Hazardous Occupancies*
- *Use & Application of the International Existing Building Code*
- *Use & Application of the International Fuel Gas Code*
- *Use & Application of the International Mechanical Code*
- *Use & Application of the International Energy Conservation Code*
- *Use & Application of ANSI A117.1 Standard for Accessible and Usable Buildings and Facilities*
- *Competency of Code Referenced Standards*
- *General Knowledge of the Milwaukee Code of Ordinances*
- *Familiarity and Application of the International Fire Code*

*Secondly, an inspector using this step must demonstrate a thorough knowledge of performing complex sprinkler inspections involving all applicable codes, standards and construction methodology. An inspector at this step must demonstrate innate public communication skills and actively participate mentoring less senior inspectors. An inspector achieving this step will possess both core competencies as well as specialized competencies in a wide variety of construction regulations.*

*Additionally, an inspector advancing to a higher step must also meet or exceed the thresholds for advancement established in the* ***QUANTITATIVE CORE COMPETENCIES*** *based on the step they are requesting.*